



0165.550US Sequence Listing

SEQUENCE LISTING

<110> AFFHOLTER, JOSEPH A.
COX, ANTHONY
NESS, JON E.
CARR, BRIAN

<120> SINGLE-STRANDED NUCLEIC ACID TEMPLATE-MEDIATED
RECOMBINATION AND NUCLEIC ACID FRAGMENT ISOLATION

<130> 0165.550US

<140> 09/721,507

<141> 2000-09-22

<150> 09/656,549

<151> 2000-09-06

<150> 60/185,244

<151> 2000-02-28

<150> 60/185,815

<151> 2000-02-29

<150> 60/186,247

<151> 2000-03-01

<150> 60/186,482

<151> 2000-03-02

<160> 37

<170> PatentIn Ver. 2.1

<210> 1

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
peptide

<400> 1

Ala Ala Pro Phe

1

<210> 2

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 2

ataagattag cggatcctac

20

<210> 3

<211> 20

0165.550US Sequence Listing

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 3

tcgggcatgg cactcttgaa

20

<210> 4

<211> 1180

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic subtilisin E

<220>

<221> modified_base

<222> (1)..(16)

<223> a, c, t, g, other or unknown

<220>

<221> modified_base

<222> (1163)..(1180)

<223> a, c, t, g, other or unknown

<400> 4

```

nnnnnnnnnn nnnnnngtga gaagcaaaaa attgtggatc agcttggtgt ttgcggttaac 60
gttaatcttt acgatggcgt tcagcaacat gctcgcgcag gctgccggaa aaagcagtac 120
agaaaagaaa tacattgtcg gatttaaaca gacaatgagt gccatgagtt ccgccaagaa 180
aaaggatggt atttctgaaa aaggcggaaa ggttcaaaaag caatttaagt atgttaacgc 240
ggccgcagca acattggatg aaaaagctgt aaaagaattg aaaaaagatc cgagcgttgc 300
atatgtggaa gaagatcata ttgcacatga atatgcgcaa tctgttcctt atggcatttc 360
tcaaattaaa ggcgcggctc ttcactctca aggtacaca ggctctaacg taaaagtagc 420
tgttatcgac agcgggaattg actcttctca tcctgactta aacgtcagag gcggagcaag 480
cttcgtacct tctgaaacaa acccatacca ggacggcagt tctcacggtg cgcatgtagc 540
cggtagcatt gccgctctta ataactcaat cgggtgttctg ggcgttagcc caagcgcata 600
attatatgca gtaaaagtgc ttgattcaac aggaagcggc caatatagct ggattattaa 660
cggcattgag tgggccattt ccaacaatat ggatgttatc aacatgagcc ttggcggacc 720
tactggttct acagcgtgta aaacagtcgt tgacaaagcc gtttcagcg gtatcgtcgt 780
tgctgccgca gccggaaacg aaggttcacg cggaaacaca agcacagtcg gctaccctgc 840
aaaatatcct tctactattg cagtagggtg ggtaaacagc agcaaccaa gagcttcatt 900
ctccagcgca gggtctgagc ttgatgtgat ggctcctggc gtgtccatcc aaagcacact 960
tcctggaggc acttacggcg cttataacgg aacgtccatg gcgactcctc acgttgccgg 1020
agcagcagcg ttaattcttt ctaagcacc gacttggaac aacgcgcaag tccgtgatcg 1080
tttagaaagc actgcaacat atcttgaaa ctctttctac tatgaaaag ggtaatacaa 1140
cgtacaagca gctgcacaat aannnnnnnn nnnnnnnnnn 1180

```

<210> 5

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

0165.550US Sequence Listing

<222> (7)..(44)
 <223> a, c, t, g, other or unknown

 <400> 5
 ggatccnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnn nnnnc 45

 <210> 6
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base
 <222> (7)..(41)
 <223> a, c, t, g, other or unknown

 <400> 6
 ggatccnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnn nc 42

 <210> 7
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base
 <222> (7)..(38)
 <223> a, c, t, g, other or unknown

 <400> 7
 ggatccnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnc 39

 <210> 8
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base
 <222> (7)..(35)
 <223> a, c, t, g, other or unknown

 <400> 8
 ggatccnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnc 36

 <210> 9
 <211> 33

0165.550US Sequence Listing

<212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base
 <222> (7)..(32)
 <223> a, c, t, g, other or unknown
 <400> 9
 ggatccnnnn nnnnnnnnnn nnnnnnnnn nnc 33

<210> 10
 <211> 30
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base
 <222> (7)..(29)
 <223> a, c, t, g, other or unknown
 <400> 10
 ggatccnnnn nnnnnnnnnn nnnnnnnnc 30

<210> 11
 <211> 27
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base
 <222> (7)..(26)
 <223> a, c, t, g, other or unknown
 <400> 11
 ggatccnnnn nnnnnnnnnn nnnnnnc 27

<210> 12
 <211> 24
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base

0165.550US Sequence Listing

<222> (7)..(23)
 <223> a, c, t, g, other or unknown
 <400> 12
 ggatccnnnnn nnnnnnnnnn nnnc 24
 <210> 13
 <211> 21
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base
 <222> (7)..(20)
 <223> a, c, t, g, other or unknown
 <400> 13
 ggatccnnnnn nnnnnnnnnn c 21
 <210> 14
 <211> 18
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base
 <222> (7)..(17)
 <223> a, c, t, g, other or unknown
 <400> 14
 ggatccnnnnn nnnnnnnnc 18
 <210> 15
 <211> 15
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide
 <220>
 <221> modified_base
 <222> (7)..(14)
 <223> a, c, t, g, other or unknown
 <400> 15
 ggatccnnnnn nnnnc 15
 <210> 16
 <211> 12

0165.550US Sequence Listing

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<220>
<221> modified_base
<222> (7)..(11)
<223> a, c, t, g, other or unknown

<400> 16
ggatccnnnn nc

12

<210> 17
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<220>
<221> modified_base
<222> (1)..(12)
<223> a, c, t, g, other or unknown

<400> 17
nnnnnnnnnn nn

12

<210> 18
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<220>
<221> modified_base
<222> (1)..(15)
<223> a, c, t, g, other or unknown

<400> 18
nnnnnnnnnn nnnnn

15

<210> 19
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<220>
<221> modified_base

0165.550US Sequence Listing

<222> (1)..(18)

<223> a, c, t, g, other or unknown

<400> 19

nnnnnnnnnn nnnnnnnn

18

<210> 20

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

<222> (1)..(21)

<223> a, c, t, g, other or unknown

<400> 20

nnnnnnnnnn nnnnnnnnn n

21

<210> 21

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

<222> (1)..(24)

<223> a, c, t, g, other or unknown

<400> 21

nnnnnnnnnn nnnnnnnnnn nnnn

24

<210> 22

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

<222> (1)..(27)

<223> a, c, t, g, other or unknown

<400> 22

nnnnnnnnnn nnnnnnnnnn nnnnnnn

27

<210> 23

<211> 30

0165.550US Sequence Listing

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base
 <222> (1)..(30)
 <223> a, c, t, g, other or unknown

 <400> 23
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 30

 <210> 24
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base
 <222> (1)..(33)
 <223> a, c, t, g, other or unknown

 <400> 24
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnn 33

 <210> 25
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base
 <222> (1)..(38)
 <223> a, c, t, g, other or unknown

 <400> 25
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnc 39

 <210> 26
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <220>
 <221> modified_base

0165.550US Sequence Listing

<222> (1) .. (35)

<223> a, c, t, g, other or unknown

<220>

```
<221> modified_base
      222      (25)      (20)
```

<222> (37) .. (39)

<223> a, c, t, g, other or unknown

<400> 26

oooooooooooo oooooooooooooo oooooooooooooo oooooooooooooo

39

<210> 27

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

```
<221> modified_base
222      (1) (100)
```

$\langle 222 \rangle$ (1) .. (32)

<223> a, c, t, g, other or unknown

<220>

```
<221> modified_base
      222      1212      1521
```

<222> (34) .. (39)

<223> a, c, t, g, other or unknown

<400> 27

oooooooooooo oooooooooooooo oooooooooooooo ooCoooooooooooo

39

<210> 28

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

<222> (1) .. (29)

<223> a, c, t, g, other or unknown

<220>

```
<221> modified_base
222      (221)      (222)
```

<222> (31) .. (39)

<223> a, c, t, g, other or unknown

<400> 28

oooooooooooo oooooooooooooo oooooooooooooo oooooooooooooo

39

<210> 29

<211> 39

<212> DNA

<213> Artificial Sequence

0165.550US Sequence Listing

```

<220>
<223> Description of Artificial Sequence: Synthetic
        oligonucleotide

<220>
<221> modified_base
<222> (1)..(26)
<223> a, c, t, g, other or unknown

<220>
<221> modified_base
<222> (28)..(39)
<223> a, c, t, g, other or unknown

<400> 29
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn
39

<210> 30
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
        oligonucleotide

<220>
<221> modified_base
<222> (1)..(23)
<223> a, c, t, g, other or unknown

<220>
<221> modified_base
<222> (25)..(39)
<223> a, c, t, g, other or unknown

<400> 30
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn
39

<210> 31
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
        oligonucleotide

<220>
<221> modified_base
<222> (1)..(20)
<223> a, c, t, g, other or unknown

<220>
<221> modified_base
<222> (22)..(39)
<223> a, c, t, g, other or unknown

<400> 31
nnnnnnnnnnnn nnnnnnnnnnnn cnnnnnnnnnnnn nnnnnnnnnnnn
39

```

0165.550US Sequence Listing

<210> 32
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<220>
 <221> modified_base
 <222> (1)..(17)
 <223> a, c, t, g, other or unknown

<220>
 <221> modified_base
 <222> (19)..(39)
 <223> a, c, t, g, other or unknown

<400> 32
 nnnnnnnnnnn nnnnnnnncnn nnnnnnnnnnn nnnnnnnnnnn

39

<210> 33
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<220>
 <221> modified_base
 <222> (1)..(14)
 <223> a, c, t, g, other or unknown

<220>
 <221> modified_base
 <222> (16)..(39)
 <223> a, c, t, g, other or unknown

<400> 33
 nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn

39

<210> 34
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<220>
 <221> modified_base
 <222> (1)..(11)
 <223> a, c, t, g, other or unknown

<220>
 <221> modified_base

0165.550US Sequence Listing

<222> (13)..(39)

<223> a, c, t, g, other or unknown

<400> 34

nnnnnnnnnnnn ncnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnn

39

<210> 35

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

<222> (1)..(8)

<223> a, c, t, g, other or unknown

<220>

<221> modified_base

<222> (10)..(39)

<223> a, c, t, g, other or unknown

<400> 35

nnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnn

39

<210> 36

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

<221> modified_base

<222> (1)..(5)

<223> a, c, t, g, other or unknown

<220>

<221> modified_base

<222> (7)..(39)

<223> a, c, t, g, other or unknown

<400> 36

nnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnn

39

<210> 37

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<220>

0165.550US Sequence Listing

<221> modified_base

<222> (1)..(2)

<223> a, c, t, g, other or unknown

<220>

<221> modified_base

<222> (4)..(39)

<223> a, c, t, g, other or unknown

<400> 37

nncnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnn

39